

## **Appendix C**

### **Visitation Projections Report**







February 26, 2010

# Visitation Projections for Over The River

Prepared for

EDAW

U.S. Bureau of Land Management

Prepared by

Harvey Economics

600 South Cherry Street, Suite 220

Denver, Colorado 80246

720.889.2755 fax 720.889.2752

[www.harveyeconomics.com](http://www.harveyeconomics.com)

he@harveyeconomics.com



Harvey Economics

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# I. EXECUTIVE SUMMARY

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This technical paper provides the visitation projections which will be utilized in the Over The River (OTR) EIS. The visitation projections for OTR represent a considerable challenge, since this is a unique event in a unique location. Harvey Economics (HE), under sub-contract to EDAW, prepared these visitation projections for the BLM, the lead agency for the OTR EIS.

HE reviewed and evaluated the Applicant's consultant report regarding OTR visitation projections. The contractor report, prepared by J.F. Sato and Associates, was useful in that it drew upon a host of data. The primary shortcoming of the Sato report was the selection of past artist events and other comparable projects to develop final visitation estimates. Therefore, HE prepared independent visitation projections. Following the initial draft of this report (November 2009), the Applicant provided HE additional information which was considered in the final visitation estimates presented in this document.

HE utilized three separate methods for projecting visitation during the exhibition period under the artists' proposed action (Alternative 1a). These three methods included market penetration by geographic location of the visitors; comparable Christo-Jeanne-Claude installations, and other comparable events in Colorado, across the U.S. and internationally. These three methods produced visitation estimates ranging from 294,000 visitors to 399,000 visitors for an average of 344,000 visitors, which HE has adopted as the visitation projection for the Alternative 1a exhibition period.

Visitation projections were also prepared for the other EIS alternatives by examining the attributes of each alternative and estimating the effects of those attributes upon the installation. The attributes which most affect visitation are likely to be the length of panels, the length of the exhibition period, and the selection of the exhibition season. Further, HE has prepared visitation projections for the installation and the demobilization phases. Finally, HE has distinguished peak day estimates for the impact analyses.

Exhibit S-1 provides a summary of the OTR EIS visitation projections.



Exhibit S-1  
Summary of OTR EIS Visitation Projections

<u>Alternative</u>	<u>Visitors During Exhibition Period</u>	<u>Installation Period</u>	<u>Demobilization Period</u>	<u>Peak Day</u>
1a, Artists' Proposed Action	344,000	36,000	36,000	34,400
1b	350,000	37,000	37,000	35,000
1c	439,000	46,000	46,000	34,400
1d	224,000	23,000	23,000	29,000
2	361,000	38,000	38,000	36,000
3	320,000	33,000	33,000	32,000
4	145,000	15,000	15,000	14,500

Visitation during the exhibition period is anticipated to range from 145,000 visitors to 439,000 visitors, depending upon the alternative. The installation and demobilization periods will range from 15,000 visitors to 46,000 visitors for each period. The highest peak day visitation will occur under Alternative 2, when visitation is anticipated to reach 36,000 persons on the peak days.



## II. Introduction

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This technical paper provides the visitor projections for the Over The River (OTR) project that will be applied in the OTR EIS. These visitor projections were developed by Harvey Economics (HE) under subcontract to EDAW, the prime contractor to the U.S. Bureau of Land Management (BLM), the lead agency for the OTR EIS. In preparing this technical paper, HE worked closely with the transportation consultant on this EIS, AECOM Transportation.

### Purpose and Objective

The OTR visitation projections are multi-dimensional. Visitors will come to the region between Cañon City and Salida to view the panels and experience the artwork during the exhibition period once all of the panels are in place. Under the Artists' proposed action, designated in this EIS as Alternative 1a, that exhibition period would be the first two weeks in August in the year 2013. In addition to this brief exhibition period, visitors are likely to come see the panels during the installation and demobilization periods, immediately before and following the exhibition period. The panel installation, or "blossoming," will take place in the days immediately prior to the exhibition period and will likely attract the most visitors outside the regular exhibition period. Further discussion of visitation during the installation and demobilization periods can be found in Section V. Visitation estimates are projected in this paper for the primary exhibition period as well as the installation and demobilization periods. Further, this paper offers assumptions about variations in visitation by day during the primary visitation period, since these daily variations will highlight peak visitation, which will be important in assessing OTR impacts.

A number of resource categories in the EIS must rely upon visitor projections to estimate impacts. Almost all of the socioeconomic effects of OTR will be driven by projected visitation attributable to the project. Similarly, transportation impacts will, in large part, be determined by the visitation projections. OTR visitation estimates will also serve as an important input to the recreation and other resource impact sections of the EIS. Mitigation efforts might also be sized from these visitation projections.

### Challenges and Caveats to OTR Visitation Assumptions

At the outset, HE recognized that visitation projections for OTR would be extraordinarily challenging.

- First, OTR represents a single event which has never been done before. Visitation projections are normally based upon similar events in either the same location or other locations in which some analogous characteristics may be identified to develop visitation estimates. No art installations by Christo and Jeanne-Claude or any other artist have been identified similar to OTR in a location similar to the Arkansas River. Christo and Jeanne-Claude did embark upon an installation in northwest Colorado a number of years ago, but high winds forced its removal after 28 hours, making it unsuitable for use as a comparable event.



- Christo and Jeanne-Claude have, of course, created a number of installation art works in places other than Colorado, but only limited data is available for those installations. The artists' primary focus is not upon the number of visitors; Christo and Jeanne-Claude do not receive compensation from visitors or the ancillary goods or services they might purchase associated with the event.
- No comparable event has been staged in the State of Colorado or in a similar environment to the Arkansas River Basin.
- The OTR project will be only a temporary installation; visitors will need to arrange their schedules within a tightly defined time frame if they are going to see the completed work.

Creative approaches to visitation estimates must be pursued, along with an understanding that the actual visitation figures might vary substantially.

A separate and particularly difficult aspect of determining OTR visitor projections relates to the dynamic nature of the relationship between visitation, publicity and public perception. During the installation phase, and certainly during the exhibition period, the publicity surrounding the OTR will influence the level of visitation. For example, if extensive press coverage is evident through the major Colorado media outlets and in the important artistic media outlets worldwide, levels of visitation will tend to increase. Secondly, the nature of the publicity coverage, that is, favorable or unfavorable, will also have an effect on visitation. News pieces and articles praising the artistic merit, the importance, or the exciting nature of the OTR will increase visitation, especially by people from outside Colorado. Even coverage of protesters and activists opposing OTR will add to the notoriety and overall awareness of the event, possibly increasing interest in the artwork. Up to a point, the publicity of opposition to OTR in the news media would likely have as much of a positive impact as a negative one on visitation. Conversely, negative publicity, such as an unpleasant experience due to traffic congestion or other visitor management issues, will reduce visitation. Hence, there is likely to be a dynamic relationship between publicity coverage, visitation and traffic management, and OTR visitation, which cannot be determined at this time. For the purpose of the OTR EIS, it is assumed that traffic will be managed adequately, except for brief periods of congestion on the weekends.<sup>1</sup> HE also assumes that visitation management will be competently performed. Finally, HE assumes, for purposes of these projections, that OTR publicity will be extensive in Colorado and more positive than negative from artistic media outlets such as the New York Times or network television. HE also assumes that some level of opposition is likely to occur in response to OTR and that the publicity surrounding that opposition will have a neutral effect on overall visitation. Visitation projections will certainly be affected if these assumptions are incorrect.

## The Applicant's Visitor Projections Considered

As part of the 2007 Christo and Jeanne-Claude *Over The River Design and Planning Report*, the applicant's consultants, J.F. Sato and Associates (Sato), prepared an estimate of the

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<sup>1</sup> R.A. Plummer, AECOM Transportation, October 2009



number of visitors expected to visit OTR during the artists' proposed 14-day exhibition period during the first two weeks of August and during the installation and demobilization periods immediately preceding and following the event (Appendix J-2). HE reviewed the report, methodology and data sources provided by Sato to determine if the Sato visitation projections were acceptable, whether those projections should be modified or whether an independent set of visitor projections should be developed. The methodology, evaluation and determination of applicability for the EIS are described below.

**Methodology.** Sato utilized several techniques and sources of information to develop estimates of OTR visitation. The results of each estimation technique were then combined in a statistical analysis, known as Bayesian updating, to produce a final OTR visitation estimate.

Sato correctly began the visitation estimates by considering other Christo and Jeanne-Claude installation art projects. From the extensive portfolio of the artists' installations, Sato selected three works because visitation figures were available for only those three. Sato acknowledges that visitor information is only "an externality" of the artistic enterprise. Sato used visitor estimates from The Gates, Wrapped Trees and Umbrellas (California only) to calculate a trip generation rate for each project based on the population within a 120 mile radius. Trip generation rates ranged from 1.7 percent to 12.7 percent. Applying these trip generation rates to the population within 120 miles of OTR resulted in visitor estimates ranging from about 59,000 to almost 453,000 people. In the course of discussing trip generation rates, the Sato report acknowledges the importance of accessibility in attempting to explain the very wide variation in the trip generation rates. Regardless, Sato proceeds to use the trip generation rate and the 120 mile radius as an estimation technique for subsequent statistical analyses.

Secondly, the Sato report appropriately turns to Colorado in search of comparable events to OTR. Sato identified 10 one-time or annual events that have occurred or continue to occur in Colorado and that meet Sato's goodness-of-fit criteria to determine comparability with OTR. Data on visitation to each event was gathered and the total visitation to these events was averaged, resulting in an average attendance of about 402,000 people. The range of Colorado events which Sato considers indicates the difficulty in finding a Colorado event with comparability to OTR. For example, Body Worlds, which was staged at a venerable and popular institution, the Denver Museum of Nature and Science, occurred over a period of several months; the Pope's World Youth Day mass, a one-time, one-day event in Colorado was also included. The Colorado State Fair was questioned in the Sato report as a comparable event, but three years of State Fair attendance were included in the analysis.

Besides considering the comparability of other Christo/Jeanne-Claude installations and other Colorado events, the Sato report performs a regression analysis of those events, essentially considering the 10 Colorado events and the three Artists' exhibitions previously discussed. Significant variables in the final equation were the population within 120 miles and whether or not the event was a sporting event. The resulting OTR visitation estimate from this methodology was 470,000 people. The regression model results in an acceptable level of predictability, as determined by the  $R^2$  value; however, there are only two significant variables in the model. Population within 120 mile radius is found to be significant, but must be paired with a sporting event variable in Sato's equation to produce a prediction of 470,000 visitors.

A fourth approach employed by Sato relates to market segmentation information from the Gates installation in New York City. The useful market penetration data from the Gates



project indicates that about 11 percent of the population in the New York City area attended the Gates, whereas less than one percent of other U.S. population, and an even smaller percentage of international visitors saw the Gates. Sato uses this market segmentation information from the Gates to develop a market penetration estimate for Colorado applicable for OTR. Whereas the Sato report introduces this market penetration technique, it does not actually apply it to a visitation estimate.

Finally, the Sato report draws from all the previous visitor estimation techniques into a single technique for estimating visitors, known as Bayesian updating. The Bayesian statistical technique, in essence, relies upon an initial, subjective estimate of OTR visitation, which is then refined through a host of independent methods. In this instance, those independent methods are the Artists' comparable projects, the Colorado comparable events, and the regression analyses. The Bayesian technique is used to arrive at a refined and supposedly statistically based visitation estimate. The Sato report uses this technique to arrive at a visitation estimate of 380,000 visitors for the Artists' original concept (Alternative 1a).

Evaluation of the Sato visitation estimates. It is important to acknowledge that both Sato and HE recognize the extraordinary difficulty of estimating OTR visitation for the reasons previously discussed. Further, HE acknowledges that the Sato visitation estimates are based upon a serious effort, appropriately drawing upon a wide range of data from the Artists' past works as well as other events in Colorado to derive visitation estimates.

However, HE notes certain concerns with the Sato visitation estimates which preclude a full adoption of the final estimate of 380,000 visitors:

- 1) The Gates project, held in New York City's Central Park should not have been included in the final visitation estimates, or Bayesian calculations. Central Park in New York City is a unique venue for a Christo and Jeanne-Claude project for a number of reasons. The accessibility of viewing, simply getting to Central Park and walking through the Gates from many different vantage points, and in the middle of a major metropolitan area, is fundamentally different than an installation over Colorado's Arkansas River. Secondly, New York City is a major art center, and the synergy of other artistic as well as non-artistic activities means that New York City is a unique draw.
- 2) The trip generation estimation technique is of questionable validity. The wide range in trip generation ratios shown in the Sato report and the fact that the variable by itself was not shown to be a good predictor of visitation in the regression analyses suggests that the trip generation technique is not a reliable form of estimate. Even so, the Sato report clearly demonstrates the importance of size of population centers and their distance from the artistic installation as a critical means of estimating OTR visitation.
- 3) The Colorado events considered comparable to OTR comprise overly inclusive individual data points which contribute to the regression and the Bayesian updating analyses. These data points are simply too indiscriminate to produce a fully reliable visitation estimate.

These criticisms do not mean that the Sato visitation estimate should be dismissed. HE concludes that an independent estimate should be derived to test the validity of the Sato estimate. The remainder of this report provides that independent estimate.



New Information from the Applicant. Following the submittal of the November 2009 draft version of this report, the artists provided new information about past visitation at other Christo/Jeanne-Claude installations in a telephone conference on December 11, 2009 and a subsequent written submittal which included revised figures from J. F. Sato Associates pertaining to visitation during installation and demobilization. HE considered this new information in arriving at the final visitation estimates set forth in this report.



### III. Visitor Projections for the Artists' Proposed Alternative (Alternative 1a)

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HE developed independent estimates of the number of OTR visitors during the two week exhibition period through use of three estimation methods:

- 1) A market penetration approach estimated OTR visitation based on Colorado residents' drive time to the artwork and the number of out of state visitors likely to attend the event;
- 2) A unique evaluation of comparable Christo and Jeanne-Claude events produced another estimate of OTR visitation; and
- 3) An evaluation of comparable national and international events produced a third OTR visitation estimate.

Each of these methodologies is discussed in detail below. The estimates produced by each of these techniques were averaged to develop a final HE OTR visitation estimate. A comparison of the HE visitation estimate to the Sato estimate is also provided.

The final HE visitor estimate accounts for all people viewing the artwork while traveling on U.S. 50, including visitors coming to the area solely to view OTR, tourists or recreationists viewing OTR as one piece of a larger trip and individuals or groups just passing through the area who would have used that highway regardless of OTR. Visitor estimates include all background area visitation since residents and tourists driving on U.S.50 for various purposes will be viewing the artwork as they drive to their destination. In addition, some visitors to OTR may view the artwork on several different occasions, including different times of day, under different weather conditions or via several modes of transportation. Each of the estimation techniques described below incorporates the potential for return visits by patrons and therefore, the final HE visitation estimate also accounts for multiple visits to OTR by a portion of visitors.

#### Market Penetration Analysis

The market penetration approach is based on the general premise that the further a person must travel to see the artwork, the less likely they are to visit.<sup>2</sup> Although there are potentially numerous motivations for visitors to see the OTR installation, HE has identified seven of the more prominent motivations as follows:

- A. *An artistic interest in Christo and Jeanne-Claude* – Christo and Jeanne-Claude are well known international artists and that recognition alone will draw people to OTR. Those with a passing interest in the Artists who are located nearby will be more likely

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<sup>2</sup> Economists often use what is known as a gravity model to predict the draw of people, taking into account the distance between the person's residence and the city, for instance. The gravity model is described as part of the following links: <http://geography.about.com/library/weekly/aa031601a.htm>, and [http://en.wikipedia.org/wiki/Gravity\\_model](http://en.wikipedia.org/wiki/Gravity_model).



to visit compared with those with a passing interest who are far away. Those with a strong interest in Christo and Jeanne-Claude will come from all locations and even outside Colorado.

- B. *Curiosity about the relationship between art and a natural environment* – One of the thought-provoking attributes of OTR is its potential to raise questions about the relationship of art to the natural environment. The panels over the river will raise that question for those who have an interest in nature and in art who wish to explore this question further. Those individuals with a passing interest in this question are more likely to visit OTR if they are nearby, compared with those with a passing interest in this question from more distant locations, where the visit represents a substantial effort.
- C. *Engineering and design aspects of the installation* – Those individuals with a curiosity about how a project like this can be designed and engineered successfully will also have an inclination to visit OTR. Those people living a considerable distance from the OTR will need a stronger interest in this question to overcome the investment in time, effort and expense to make the journey to the site.
- D. *The “cool factor”* – Art installations, as well as other events, will generate a reputation or a “buzz”, usually formed by opinion leaders and the media. If OTR becomes “the thing to do,” then it will attract a higher level of visitation across many market segments.
- E. *Interest in the Arkansas Valley* – People will visit who have a past interest in the Arkansas Valley and who want to see how this installation affects their perception of the Valley. This might be rafters or other recreationists, probably most from Colorado, who regularly visit the Arkansas Valley for other reasons.
- F. *Just something to do* – For those people living in relatively close proximity to the OTR, they might visit the site for no better reason than it represents an activity to fill up their time. The fact that it is something different to do may be sufficient motivation if the drive time to get to the site is not burdensome.

The market penetration approach to the OTR visitation estimate breaks the population of the State of Colorado into the following five markets: the Denver/ Boulder region, the North Front Range, the Colorado Springs region, the Pueblo region and the Rest of Colorado. The Rest of Colorado market includes all areas of the state that are not included in other markets. The market penetration approach is based on the assumption that the further a person lives from the OTR panel sites, the stronger their interest would have to be in one or more of the motivation areas to entice them to visit.

Visitation estimates for each of the markets was developed by applying an assumed penetration rate to each market’s population. Current population data for each of these markets was collected from the Colorado Department of Local Affairs. The penetration rate for each market was determined through the following steps:



- Using information from Sato's market segmentation analysis of The Gates visitation, found in the Design and Planning Report, HE applied an 11 percent penetration rate to the markets closest to the exhibition (Colorado Springs and Pueblo) and a 1 percent penetration rate to the City of Grand Junction, an area in the Rest of Colorado market segment that is assumed to represent a trip of great enough length and duration that only a small percent of the population would visit OTR. Visitors from areas of Colorado further from OTR than Grand Junction would also be assumed to have a 1 percent penetration rate, which is the lowest penetration rate for visitors from within the state.
- The drive times between Denver, Boulder, Fort Collins, Colorado Springs or Pueblo and Cañon City (representing the starting point of Front Range visitors OTR experience) were identified, as was the drive time between Grand Junction and Salida (representing the beginning of Grand Junction visitors OTR experience). Drive times and routes between various locations can be seen in Exhibit 1. Penetration rates were applied to each market based on specific drive times and the model output. The final penetration rate for the entire Rest of Colorado market was based on the average of the 1 percent Grand Junction rate and the North Front Range penetration rate.

Exhibit 1.

Drive Times and Suggested Routes to OTR from Selected Colorado Population Centers

<u>Drive to Beginning of OTR Experience</u>	<u>Drive Duration (minutes)</u>	<u>Route</u>
Colorado Springs to Cañon City	55	Hwy 115
Pueblo to Cañon City	43	Hwy 50 - Direct, westbound
Denver to Cañon City	127	I-25 to Hwy 115
Boulder to Cañon City	154	US 36 to I-25 to Hwy 115
Fort Collins to Cañon City	185	I-25 to Hwy 115
Grand Junction to Salida	216	Hwy 50 - Direct, eastbound

Source: Mapquest.com.

- A simple, linear model was created to develop an estimate of the relationship between drive time and market penetration, with a 1 percent penetration rate tied to Grand Junction drive time and an 11 percent penetration rate tied to the Colorado Springs and Pueblo markets, as discussed above. Exhibit 2 shows that for every 16 additional minutes of drive time, the market penetration decreases by 1 percent.



Exhibit 2.

Market Penetration Determined by Drive Time for Colorado Residents

<u>Market Penetration</u>	<u>Drive Duration (minutes)</u>
1%	216 or more (Grand Junction to Salida)
2%	200
3%	184
4%	168
5%	152
6%	136
7%	120
8%	104
9%	88
10%	72
11%	55 or less (Colorado Springs/Pueblo to Cañon City)

Source: J.F. Sato and Associates, *Over The River Planning and Design Report*, April 2007; Harvey Economics, 2009.

- Out of state visitors will also be an important source of OTR visitation. The number of out of state leisure visitors to Colorado in the months of July, August and September was broken down into those who either spent time in or stayed overnight in the south central region of Colorado and those that visited other areas of Colorado.<sup>3</sup> The months of July and September were included in the out of state visitor analysis with the idea that a portion of visitors in those months would rearrange their travel schedules to August in order to visit OTR. A 2 percent penetration rate was applied to visitors of the south central region and a 1 percent rate was applied to visitors to other areas of Colorado under the assumption that those already in the vicinity of OTR would be more likely to visit. These relatively low penetration rates are the result of two factors: (1) not all July, late August or September visitors would be able or willing to change their travel plans and (2) the South Central region covers a large geographical area, including some areas which are further or less accessible to OTR than others.

The market penetration analysis results in estimated OTR visitation of about 338,000 people. A summary of the market penetration analysis is provided in Exhibit 3.

<sup>3</sup> Longwoods International, *Colorado 2008 Travel Year*.



Exhibit 3.

Projected OTR Visitors during the Exhibition Period, Alternative 1a, Market Penetration Analysis

<u>Location</u>	<u>Number of Persons</u>	<u>Percentage Assumed to Visit OTR in Exhibition Period</u>	<u>OTR Visitors</u>
<b>Front Range Colorado</b>	4,033,438		
Denver Boulder Region	2,734,483	6.0%	164,069
North Front Range	532,759	3.0%	15,983
Colorado Springs Region	610,473	11.0%	67,152
Pueblo Region	155,723	11.0%	17,130
<b>Rest of Colorado</b>	886,446	2.0%	17,729
<b>Overnight Leisure Visitation to Colorado, July-Sept</b>	4,410,900		
Spent time in or stayed in the South Central Region	1,190,943	2.0%	23,819
Rest of Colorado Visitors	3,219,957	1.0%	32,200
<b>Total</b>			<b>338,081</b>

Source: Colorado Department of Local Affairs, 2007; Longwoods International, *Colorado 2008 Travel Year*, J.F. Sato and Associates, *Over The River Design and Planning Report*, 2007; Harvey Economics, 2009.

## Christo and Jeanne-Claude Comparables

Past attendance at Christo and Jeanne-Claude installations would naturally provide the best basis on which to estimate visitor projections for OTR. The nature of a Christo and Jeanne-Claude exhibition is unique, although each involves a fabric application in an outdoor setting. Because Christo and Jeanne-Claude exhibitions are free and open to all, there is generally no reliable measure of attendance. Three Christo and Jeanne-Claude exhibitions have visitor attendance estimates and provide an opportunity to use those estimates for OTR projections. These art installations are *Wrapped Trees*, *Umbrellas* and *The Gates*. A description of each is provided below.

- Wrapped Trees. In 1998, the *Wrapped Trees* exhibition by Christo and Jeanne-Claude was held at the Fondation Beyeler and along the creek of Berower Park in Riehen, Switzerland. This exhibition came three years after Christo and Jeanne-Claude's *Wrapped Reichstag*, which was considered to be an important and transformative event by many Europeans and increased the artists' renown.

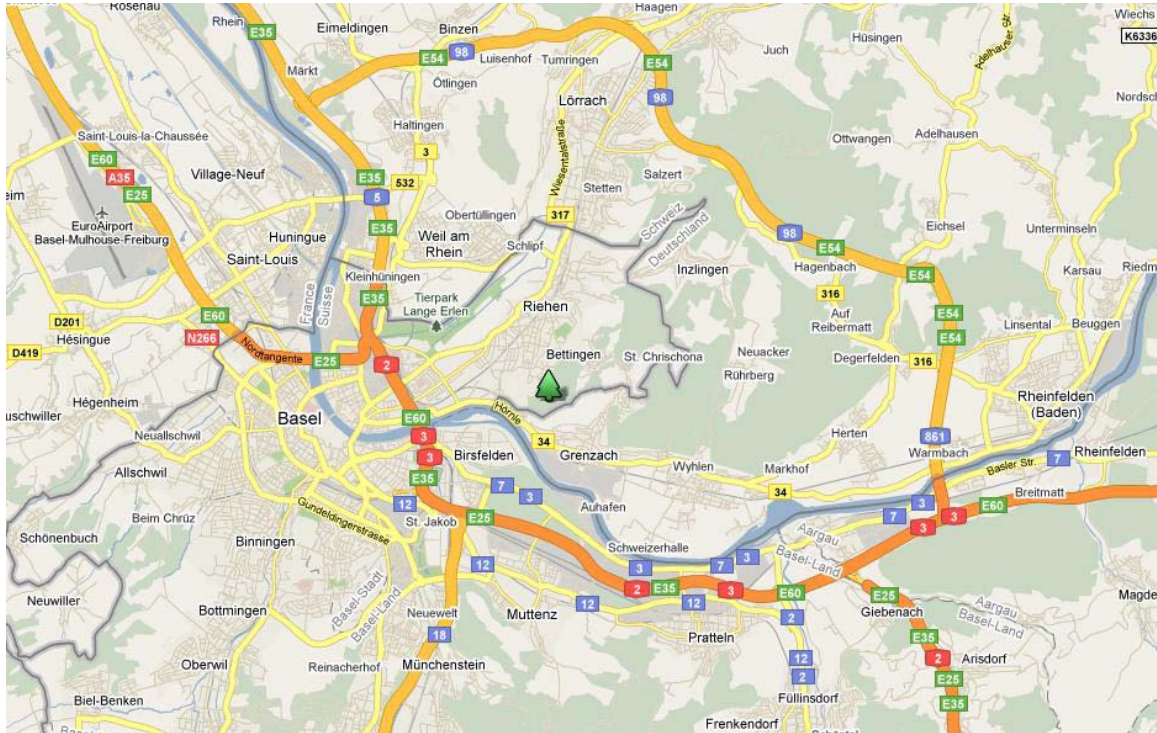
Wrapping of 178 trees began on November 13 and was completed on November 22. The trees varied in height from about 3 feet tall to more than 80 feet tall and were wrapped in a woven polyester fabric secured with rope. The event concluded with the unwrapping of the trees 22 days later on December 14.

Riehen is a suburb of Basel, Switzerland and is located close to the borders of France and Germany. Basel is known as a center for art and hosts an annual international art exhibition. The Basel metropolitan area has a population of about 240,000, although



it is relatively close to Zurich and other more populous cities. Many visitors used public transportation to reach the event and as a result, there were no congestion issues. The event attracted about 330,000 visitors, although not many during the installation or demobilization periods. A map of the project area is shown in Exhibit 4.

Exhibit 4.  
Map of Wrapped Trees Installation Region



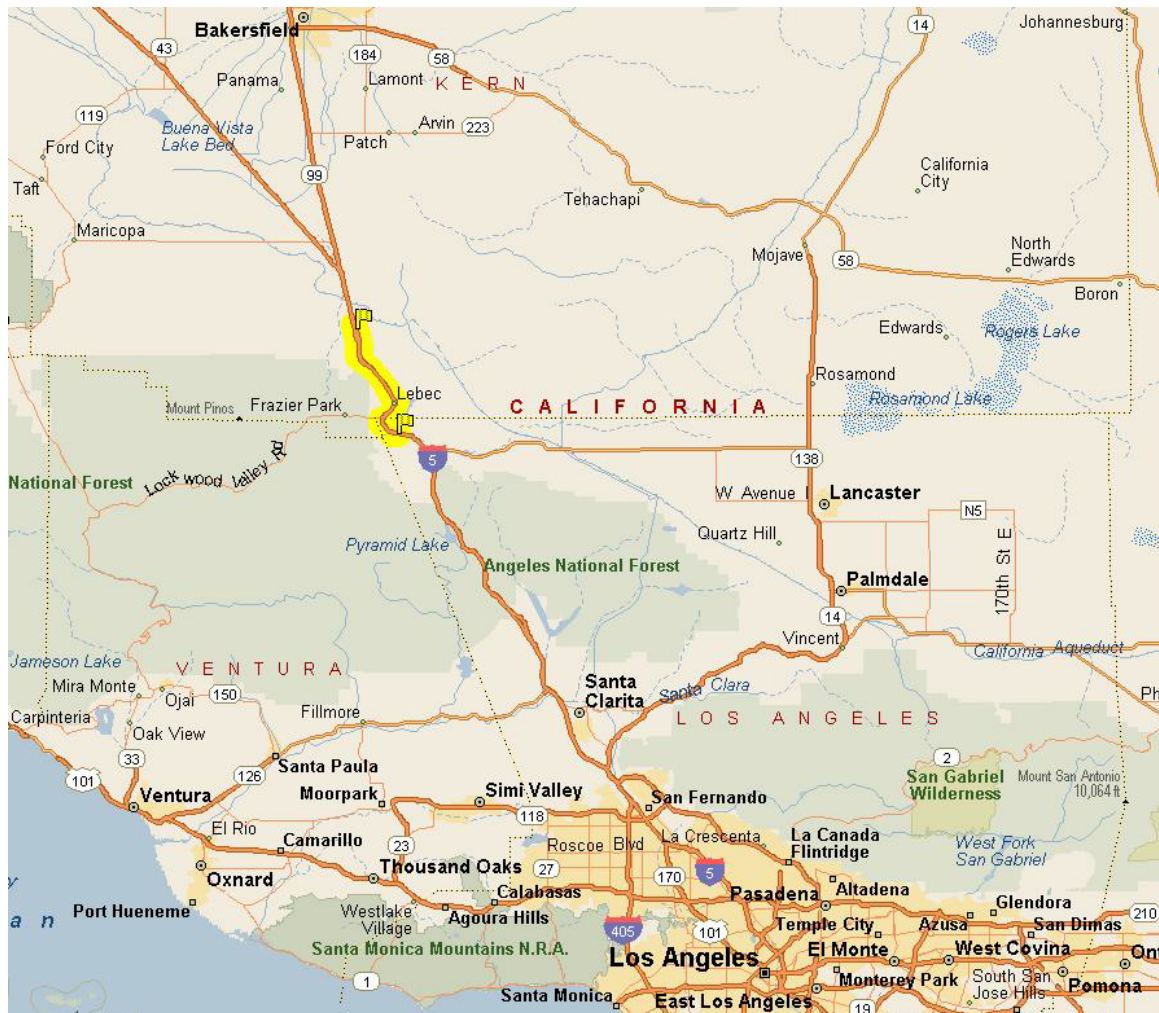
Note: The green tree icon denotes the location of Wrapped Trees.

Source: Google Maps

- **Umbrellas.** Christo and Jeanne-Claude's Umbrella exhibit was held for 19 days in October, 1991. While the Umbrellas were displayed in Japan and California, it is the California Umbrellas exhibition that is relevant to OTR for purposes of visitor projections. In California, 1,760 yellow umbrellas, more than 19 feet tall and 28.5 feet in diameter, were displayed in a valley along Interstate 5 about 60 miles north of Los Angeles, between the unincorporated communities of Gorman and Grapeview. Both private and government owned lands were used for the display. A map of the installation area is shown in Exhibit 5.



Exhibit 5.  
Map of Umbrellas Installation Region



Note: Umbrellas was located along Interstate 5, between Grapevine and Gorman, as identified by the yellow flags.

Source: Microsoft Streets and Trips.

The umbrellas installation was in Kern County, just north of Los Angeles County. The population within 120 miles of the installation is about 18 million. Although Interstate 5 is a heavily traveled north/south route in California, the area of the exhibition was rural, with little commercial development. Like OTR, those wishing to view Umbrellas had to drive to view the exhibit. California DOT estimated that 1 million people traveled to see the exhibit, presumably distinguishing those visitors from typical road travelers on that stretch of highway. OTR officials believe visitation was less than this figure, and only a small number of viewers during installation and demobilization.

- The Gates. In February of 2005, The Gates installation opened in Central Park, New York City. The 7,503 gates, with free-hanging saffron colored fabric panels, adorned 23 miles of Central Park walkways. The installation remained in the Park for 16 days, at which time the gates were removed and materials recycled. The installation was viewed by pedestrians in the park and was also visible from buildings surrounding the



Park. Central Park is a National Historic Landmark located in the heart of Manhattan. Covering more than 800 acres, or about 6 percent of Manhattan's total acreage, the Park draws about 25 million visitors each year. The population of Manhattan is about 1.6 million and about 20 million people live within 120 miles of the park. The Gates attracted more than 4 million visitors. Central Park hired counters for the duration of the exhibition, so visitation figures for the Gates are the most accurate of any Christo/Jeanne-Claude installation. The Gates raised awareness of the artists in the United States, although likely more so on the East Coast and in the New York City area.

Once the details of these three Christo and Jeanne-Claude works of art were evaluated, it was determined that The Gates would not be usable as a comparable event. Although The Gates is the most recent Christo and Jeanne-Claude installation and was located in the U.S., the New York City (NYC) location is too different from the location of OTR for The Gates to be considered a comparable event. First of all, NYC is home to numerous other events and activities that would attract visitors to the area; for most visitors, it was likely not only the desire to visit The Gates that brought them to NYC, but the option of a package of activities. Secondly, the proximity of 20 million people within the multi-state area surrounding NYC and the ease of access to NYC for many people (many mass transit options are available into NYC) would likely produce large visitation numbers for The Gates. The location of OTR, in a rural area of Colorado, does not provide the same lure or ease of access as The Gates.

In order to compare Wrapped Trees and Umbrellas with OTR, a matrix was designed that took into account different aspects of each event that might impact attendance. The aspects considered were:

- Country – Where was the comparable event held?
- State – If in the U.S., what state was it in?
- Location – Was the event in a rural, urban, suburban or other setting?
- 120 Mile Population – What was the population within 120 miles of the event?
- Tourist Destination – Was the event location a tourist destination?
- Getting there – What was the primary means of transportation used to get to the event?
- Viewing Accessibility – How did visitors view the installation, i.e., from car, on foot, etc.
- Venue – What was the setting (established park, open space, etc.)?
- Season – In what month(s) did the comparable event occur?
- Year – How recent was the event?
- Viewing Days – Over how many days did the event occur?

Each aspect, or variable, was rated as it compared to OTR and how it would impact visitation. The rating factors range from -3, indicating that the difference between the two events suggests that OTR visitation would be much lower, to +3, indicating that the difference between the two events suggests that OTR visitation would be much higher. For example, OTR and Umbrellas were rated as being similar under the location aspect, since Umbrellas was located in a rural area; however, since Umbrellas took place almost 20 years ago, the rating reflects higher visitation at OTR. The rating factors are shown in Exhibit 6.



Exhibit 6.  
Comparable Event Rating Factors

<b><u>Key for point adjustments</u></b>	
3	= Difference will make OTR much higher
2	= Difference will make OTR somewhat higher
1	= Difference will make OTR a little higher
0	= Match OTR
-1	= Difference will make OTR a little lower
-2	= Difference will make OTR somewhat lower
-3	= Difference will make OTR much lower

Source: Harvey Economics, 2009.

Once each aspect of Wrapped Trees and Umbrellas was rated, the points were totaled, with each point representing 10 percent of the respective events visitation. These amounts were either added or subtracted from the events' visitation estimate to represent an estimate of visitation to OTR. Exhibit 7 illustrates the application of the rating system to each comparable Christo and Jeanne-Claude event, the resulting visitation adjustment and the OTR visitation estimate.



## Exhibit 7.

### Visitation Adjustments to Christo and Jeanne-Claude Installations for Comparability to OTR

<u>Comparability Criteria</u>	<u>OTR</u>	<u>Wrapped Trees</u>	<u>Points</u>	<u>Umbrellas</u>	<u>Points</u>
<i>Attendance</i>		330,000		1,000,000	
<i>Country</i>	US	Switzerland	-1	US & Japan	0
<i>State</i>	Colorado	N/A		California	-2
<i>Location</i>	Rural area	Suburban	-1	Rural area	0
<i>120 Mile Population</i>	4 million	19 million	-3	17 million	-3
<i>Tourist Destination</i>	Yes	Somewhat	2	No, but close to major tourist destinations	-1
<i>Getting there (Primary)</i>	Drive personal auto	Drive car or take train	-1	Drive personal auto	0
<i>Viewing Accessibility</i>	Drive personal auto, view from River	Pedestrian or bicycle	-1	From automobile, although possible to walk grounds	0
<i>Venue</i>	Roadside/riverside	Established Park	-1	Roadside	0
<i>Season</i>	Summer	Fall/Nov & Dec	2	Fall/October	1
<i>Year</i>	~2013	1998	1	1991	2
<i>Viewing Days</i>	14	22	-1	19	-1
<b>Totals</b>			<b>-4@33,000 each</b>		<b>-4@100,000 each</b>
Visitation Adjustment			-132,000		-400,000
<b>Visitation Estimate Comparable to OTR</b>			<b>198,000</b>		<b>600,000</b>

Source: Harvey Economics, 2009.

The average of the two Christo and Jeanne-Claude installations adjusted for comparability to OTR is 399,000.

### Other Installation Event Comparables

HE also researched non-Christo and Jeanne-Claude events for comparability to OTR and use in estimating OTR visitation. The search criteria for these events included the following:

- One-time event or annual event;
- Rural location, but with some proximity to a larger population area;
- A single genre event; an art event would be ideal, but other event types would also be useful;
- Multi-day event; and
- Potential audience draw from national and international destinations.

Exhibits 8 and 9 provide a sampling of the Colorado, national and international events which HE identified and evaluated for potential comparability to OTR.



Exhibit 8.  
Sample of Colorado Events Considered for Comparability to OTR

<u>Event &amp; Location</u>	<u>Description</u>	<u>Result</u>
<b>Cherry Creek Arts Festival Denver, Colorado</b>	This large art event in Colorado (Cherry Creek), also includes food and music. Currently in its 19th year, the event attracts about 350,000 visitors annually. This annual, multi-day event takes place over three days over the 4th of July holiday. Admission is free.	This art-focused event in Colorado provides adequate similarities for OTR visitor projections.
<b>Loveland Sculpture Invitational Loveland, Colorado</b>	This annual event is held for 3 days during the second weekend in August. Annual attendance is about 15,000.	The focus of this event is regional and does not provide adequate similarity for OTR visitor projections.
<b>Pikes Peak Arts Fest Colorado Springs, Colorado</b>	This juried art fair is in its fifth year of operation. In 2009, it was held on July 3, 4 and 5 at the America The Beautiful Park.	Although this event is located in the same general region of Colorado as OTR, it is not well known outside the local area and does not provide adequate similarity for OTR visitor projections.
<b>Snowmass Mountain Masterpieces Snowmass Village, Colorado</b>	This annual event has been held for 28 years and features about 30 to 40 artists each year. About 1,000 visitors, mostly from the Roaring Fork Valley and Grand Junction, attend each year.	Most visitors to this relatively small art event are local, thus this is not comparable for the OTR visitor projections.
<b>Salida Riverside Fine Arts Festival Salida, Colorado</b>	2009 was the first year for this event. It attracted about 2,500 people over several days in mid-August. This area also supports the Salida Art Walk, Buena Vista art Gallery Tour and Chaffee County Open Awards Art Show.	Although these events are in the Project area, they are primarily local in nature and do not provide adequate similarity for OTR visitor projections.
<b>Fine Arts and Craft Festival Estes Park, Colorado</b>	This is a two-day event held in September. Estes Park is the gateway city to Rocky Mountain National Park. Event attendance is not known.	This appears to be a small, local event and sufficient information is not available for use in OTR visitor projections.
<b>Downtown Boulder Art Fair Boulder, Colorado</b>	2009 was the 31st year for this two-day event that takes place in mid-July. The event features more than 150 artists and attracts about 90,000 people, mostly from the Front Range of Colorado.	This annual event has built substantial attendance over time, but the regional aspect of the event does not lend itself to comparability with OTR.
<b>Telluride Bluegrass Festival Telluride, Colorado</b>	This four-day event is held in mid-June in Telluride, an upscale resort town. The festival features well-known acts. In 2009 about 40,000 people attended. About half the attendees are from Colorado. Most of the other half are from other four-corner states (Utah, Arizona and New Mexico).	The event is space limited and draws from a regional audience. As a result, it is not a good choice for OTR projections.
<b>Rocky Grass Festival Lyons, Colorado</b>	This three-day music festival is held in mid to late July in this small community located near Boulder. More than 10,000 people attend. About 65 percent of visitors are from Colorado.	The event draws from a predominately local audience. As a result, it is not a good choice for OTR projections.
<b>Food and Wine Classic Aspen, Colorado</b>	This three-day wine and food event is held in mid-June. Cost of the event is about \$1,100 per person. In 2009, about 5,000 people attended.	The high cost of this event makes it unsuitable as a comparable event for OTR visitor projections.
<b>Colorado Mountain Wine Fest Palisade, Colorado</b>	This annual event is in its 18th year of operation. Held the third weekend of September, this four-day festival attracts about 7,000 people each year. Most in attendance are from Colorado.	The event draws from a predominately local audience. As a result, it is not a good choice for OTR projections.
<b>Colorado State Fair Pueblo, Colorado</b>	The Colorado State Fair is an eleven day event that features a midway, musical acts, agricultural exhibits, cultural exhibits, arts and crafts, contests and shows, commercial exhibits and concessions.	This well-known event offers such a wide variety of activities and has strong ties to agriculture and many Colorado organizations that it is not a comparable event for OTR visitor projections.
<b>Colorado Renaissance Festival Larkspur, Colorado</b>	This event is held about 30 miles from both Denver and Colorado Springs for eight weekends during the summer. Now in its 33rd year, the event features more than 225 skilled artisans, a variety of musical acts and other entertainment, rides and games.	The Renaissance Fair is a highly commercial, diverse event that takes place in a number of cities across the U.S. each year. The large amount of advertising and name recognition of the Festival make it a poor comparable for OTR visitor projections.

Source: Harvey Economics, 2009.



# Exhibit 9.

## Sample of US and International Events Considered for Comparability to OTR

Event & Location	Description	Result
<b>Albuquerque Balloon Fiesta</b> Albuquerque, New Mexico	This annual event occurs over 9 days in the fall. Albuquerque is about 375 miles from the OTR Project location. The event began as a radio station promotion in 1973 with a balloon race that attracted about 20,000 spectators. It is not located in a rural area, but it is somewhat isolated from other large population centers. In 2007, the event attracted 900,000 visitors, or about 100,000 per day. The cost of the event was \$6 per person and \$10 to park. Other activities include fireworks and chainsaw carving, but the daily mass ascension of balloons is the main attraction.	Because of its proximity to the Project, the single, primary aspect, and minimal cost, this event is considered to be a suitable comparable for OTR visitor projections.
<b>Calgary Stampede</b> Alberta, Canada	This annual rodeo event is held in Calgary, Alberta Canada. Calgary is the largest city in Alberta with a population of about 1 million. the Stampede is a multi-day event held for 9 days in July. It began as the Alberta Provincial Exhibition in 1909, with attendance of about 55,000 over 5 days. in 2005, about 1.2 million attended the 9 day event. It is genre specific, in that events are rodeo related, however, it does have a variety of activities	This well-known annual event's long history, location in a populous area and variety of events do not provide enough similarities to be a suitable comparable for OTR visitor projections.
<b>Festival Western de Saint-Tite,</b> Quebec, Canada	This rodeo festival with many events is held in the small town of St. Tite, population 4,000. In 1967, a rodeo day was organized as a publicity strategy by local leather manufacturers. About 5,000 visitors attended that first year. In 2009, the festival will last 10 days and an attendance is expected to be about 600,000 or 60,000 per day. The event offers a variety of experiences including rodeos, musical performances, country dancing, equestrian events and a parade.	This festival includes multiple activities and attractions which render it a poor comparable for OTR visitor projections.
<b>HemisFair '68</b> San Antonio, Texas	This World's Fair event was held from April to October, 1968, in San Antonio, Texas. The population in 1970 was about 650,000. More than 30 countries hosted pavilions at the fair. About 6.3 million visitors, or about 35,000 per day, attended the event.	The World Fair events do not occur on a set time time schedule, but the long history of the events and the participation of many nations provide an audience that is not comparable to a Christo-Jeanne-Claude event and eliminates this event as a comparable.
<b>Willie's Picnic</b>	Musical event held occasionally by well-known performer, Willie Nelson. Originally, the event was a multi-day affair, including the 4th of July. The event has been held off and on since 1973. One of the largest events was in 1975 when 90,000 people attended the Picnic in Liberty Hill, Texas, a small community about 33 miles northwest of Austin.	Although Christo is well-known in the art world and in some circles, Willie Nelson, and many of the other Picnic performers, have such widespread name recognition and large fan base that eliminates these events as comparable to a Christo-Jeanne-Claude exhibition.
<b>Winter Festival of Lights,</b> Niagara Falls, Ontario, Canada	This annual event was first held in 1983 and attracted about 250,000 spectators. It is an outdoor viewing event held at no cost to visitors, although donations are accepted. In 2007, the event attracted about 1.3 million visitors. The festival is held from early November, to the first week of January. Because of the extent of the lights, it is recommended that visitors drive to view them. Bus tours are also available.	This event has a sufficient similarities with the OTR Project to be used in visitor projections.
<b>Woodstock Music &amp; Art Fair</b> Woodstock, New York	This event, advertised as a music and arts festival, was held in a rural area of upstate New York in for 3 days in 1969. It was a one-time, multi-day event, located in a rural area, close to large population centers. The cost was about \$75 in current dollars. Total visitation is somewhat speculative, but 500,000 or about 166,000 per day is generally accepted as an attendance number.	Although this event has attributes similar to OTR, Woodstock featured many famous musical acts and was part of a unique social circumstance. As a result, it is not useful in projecting OTR visitor projections.
<b>1982 World's Fair,</b> Knoxville, Tennessee	This event was held in a smaller city; in 1980 the Knoxville MSA had a population of about 500,000. While not actually a one-time event, it was a one-time event in that location, much like a Christo installation. The event ran from May 1 to October 1. Many nations participated in the event and visitors came from around the world. About 11 million people attended the event, or about 61,000 per day. This event had many, varied attractions and activities. A six-month pass to the fair cost \$100.	The World Fair events do not occur on a set time time schedule, but the long history of the events and the participation of many nations provide an audience that is not comparable to a Christo-Jeanne-Claude event and eliminates this event as a comparable.

Source: Harvey Economics, 2009.

Of the events identified above, the Niagara Falls Festival of Lights, the Albuquerque Balloon Fiesta and the Cherry Creek Arts Festival suitably fit the search criteria. Although neither the



Festival of Lights nor the Balloon Fiesta is an art event, they each have other characteristics that make them comparable to OTR. For example, the Festival of Lights is viewed by car as visitors drive a specified tour route. These three events are annual events that have been occurring for many years, resulting in increased interest, notoriety and visitation over the years. Therefore, the attendance numbers used in this analysis for the Festival of Lights and the Balloon Fiesta are from the 5<sup>th</sup> year of the events occurrence, based on the belief that by the 5<sup>th</sup> year, there is some awareness of the event, but it has not yet become an institution. The same rating system that was applied to the Christo and Jeanne-Claude comparable events (Wrapped Trees and Umbrellas) was also applied to these events, resulting in OTR visitation estimates based on these non-Christo and Jeanne-Claude events. Exhibit 10 presents a summary of the evaluation of the comparable non-Christo and Jeanne-Claude events and the resulting OTR visitation estimates.

#### Exhibit 10.

#### Visitation Adjustments to non-Christo and Jeanne-Claude Events for Comparability to OTR

<u>Comparability Criteria</u>	<u>OTR</u>	<u>Niagara Falls Festival of Lights</u>	<u>Points</u>	<u>Albuquerque Balloon Fiesta</u>	<u>Points</u>	<u>Cherry Creek Arts Festival</u>	<u>Points</u>
Attendance		343,270		195,220		350,000	
Country	US	Canada	1	US	0	US/Colorado	0
State	Colorado	N/A		New Mexico	1	Colorado	0
Location	Rural area	Mid-Sized City	0	Mid-Sized City	0	Large metro area	-2
120 Mile Population	4 million	5 million	0	600,000	3	4 million	0
Tourist Destination	Yes	Yes	-3	Somewhat	1	Somewhat	1
Getting there (Primary)	Drive personal auto	Drive personal auto	0	Drive personal auto	0	Drive, walk, public transit	-1
Viewing Accessibility	Drive personal auto, view from River	Car	1	Pedestrian and auto	-1	Pedestrian	-1
Venue	Roadside/riverside	Roadside/riverside	0	Open area	-1	City streets	-1
Season	Summer	Winter	2	Fall	1	Summer	0
Year	2013	2009	0	2009	0	2009	0
Viewing Days	14	58	-2	9	1	3	2
<b>Totals</b>			<b>-1@34,327 each</b>		<b>5@19,522 each</b>		<b>-2@35,000 each</b>
Visitation Adjustment			-34,327		97,610		-70,000
<b>Visitation Estimate Comparable to OTR</b>			<b>308,943</b>		<b>292,830</b>		<b>280,000</b>

Source: Harvey Economics, 2009.

#### HE visitation estimates for Alternative 1a

The OTR visitation estimates developed using each of the three approaches above are summarized in Exhibit 11. Acknowledging that none of the approaches provides a perfect method for estimating OTR visitation, the three estimates were averaged resulting in a final OTR visitor estimate of 344,000 people. This compares with Sato's final visitor estimate of 380,000. The HE estimate is lower than the Sato estimate by 36,000 visitors, a difference of about 10 percent.



Exhibit 11.

Summary of OTR Exhibition Period Visitation for Alternative 1a

<b><u>Estimation Method</u></b>	<b><u>Projected Visitation</u></b>
Market Penetration	338,000
Christo/Jeanne-Claude Installation Comparables	399,000
Other Event Comparables	294,000
<b>Average</b>	<b>344,000</b>

Source: Harvey Economics, 2009.

Although the final HE estimate is not substantially different than the Sato estimate, we believe the HE estimate is more defensible and recommend its adoption for the OTR EIS.



## IV. Visitor Projections for Other EIS Alternatives

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### Description of Alternatives

Compared to the Artists' Proposed Alternative (Alternative 1a), the other EIS alternatives vary according to the following components:

- Panel length, location and number of panel sites;
- The existence of a transit opportunity;
- Various visitor management strategies, including variations of boating rationing, the availability of Arkansas Headwaters Recreation Area (AHRA) sites and staging area locations;
- Additional aspects, including construction duration, the length of the exhibition period and the calendar days of the exhibition period.

The details of each component for each alternative can be found in Exhibit 12.



Exhibit 12.  
Summary of EIS Alternative Components

			No Action	Alternative 1				Alt. 3	Alt. 4
				1a	1c	1d	2		
PANELS		5.9 miles at 8 sites		x	x	x			
		4.8 miles at 5 sites					x		
		4.1 miles at 8 sites						x	
		1.4 miles at 4 sites							x
TRANS		No Accel/Decel Lanes at Harvey Bridge		x					x
		Temporary Accel/Decel Lanes at Harvey Bridge			x	x	x	x	
VISITOR MANAGEMENT	Rationing	Existing boat rations		x		x	x	x	x
		New, temporary rations*			x				
	AHRA Sites	AHRA sites open, existing uses permitted; standard SP entrance fees apply		x			x	x	x
		AHRA sites open, OTR-related rec. uses only; event-only fees applied			x				
		Close AHRA rec. sites; lump sum payment to offset revenue loss				x			
	Staging/Info	Parkdale		x	x	x	x	x	
		Texas Creek		x	x	x	x	x	x
		Fremont Road		x	x	x	x	x	x
		Salida		x	x	x	x	x	x
	TEMPORAL	Const. Duration	Two years	x	x		x	x	
			One year			x			x
		Viewing Window	Two weeks	x		x	x	x	x
			Three weeks		x				
		Viewing Season	June/July				x		
			August	x	x			x	x
			September			x			

\*New rations would apply during the last two weeks of blossoming, exhibition, and the first week of demobilization (5 weeks total).

Source: EDAW, Inc., *Alternatives Development and Analysis, Draft Technical Support Document*, July, 2009, as revised 07/08/2010.



## Impacts to Visitation, by Alternative Component

HE studied the variations of each alternative component separately to determine what impact each component would have on visitation, compared to Alternative 1a. HE defined the visitation effects as a percentage change in number of visitors from Alternative 1a. The conclusions of the analysis are described in detail below and shown in Exhibit 13.

Panel length, location and number of panel sites. Alternatives 2, 3 and 4 include reduced miles of panels, compared to Alternative 1a, at varying numbers of sites.

- Under Alternative 2, the three panel sites located west of Texas Creek would be eliminated. Those three panel sites were located a distance away from the rest of the panels, were further apart from each other than other sites, and were the furthest away from the Front Range, where the majority of visitors are expected to come from.<sup>4</sup> A small number of visitors driving to OTR from western parts of Colorado would experience longer drive times under Alternative 2; however, visitation levels for those visitors would not be expected to change, given the assumptions of the market penetration approach described previously. For these reasons, HE has assumed that the reduction in total panel length and in panel sites would not be expected to affect visitors and would not reduce visitation, although artistic values might be compromised.
- Under Alternative 3, total panel length is reduced, but the number and general location of sites remains similar to Alternative 1a. The reduction in panel length would likely have a negative effect on some potential visitors who might believe that the provenance of the artists' work has been sullied, since there are likely to be news stories that discuss the artists' original proposal. The OTR "story" is likely to be discussed by the media, including the fact that the overall panel length under Alternative 3 was reduced by more than 40 percent from the original proposal. The interest of a small portion of potential visitors would be eliminated due to the idea that the artwork does not reflect the true Christo and Jeanne-Claude vision. In addition, visitors to OTR under this alternative may not have the same dramatic, awe-inspiring experience of a Christo and Jeanne Claude artwork that they were expecting, which would likely result in less enthusiasm for the project from the media and a dampening of visitation compared to the visitation expected for Alternative 1a. Multiple viewings might be less as well. For these reasons, HE believes that a reasonable reduction in visitation due to panel changes under Alternative 3 would be between 5 and 10 percent. HE has applied a 7 percent reduction to visitation estimates to account for these changes (a 25,100 visitor decrease).
- Alternative 4 represents a large reduction in overall panel length, along with a reduction in the number of panel sites. One small panel would be located in the Parkdale area, with the three remaining panels located west of Texas Creek. The Parkdale area panel and the other three panels would be located a distance from each

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<sup>4</sup> The majority of Colorado visitors, as well as out-of-state visitors, are expected to drive to OTR via the Front Range. This includes a portion of the visitors in the Rest of Colorado market, which includes populations on the eastern plains.



other and the major portion of the artwork would be closer to Salida than to Cañon City. Under Alternative 4, the drive time to view OTR from the Front Range would increase, decreasing the number of people that would visit. In addition to the increased drive time, the small size of the Project would substantially decrease the overall interest in viewing the artwork, making it more of a curiosity than a grand-scale art event, further reducing visitation. A market penetration analysis based on adjusted drive times and the reduced size of the artwork indicates that visitation to OTR would be reduced by about 60 percent (almost 207,000 people) under Alternative 4.

Transit opportunities. All the alternatives allow for managed personal vehicle access, which is defined as “the use of various management techniques to manage high traffic volumes along US 50.”<sup>5</sup> Personal vehicles would only be allowed to stop at the various designated staging areas and would not be allowed to stop at other locations along US 50. Alternative 1b is the only alternative that also includes a supplemental bus service as an additional transit option.

The bus service would travel along US 50 allowing passengers to view the panels and would make stops at Parkdale, one intermediate location and at Texas Creek. Only the bus service would allow passengers to stop between Parkdale and Texas Creek; personal vehicles would not be allowed to make this additional stop to view the panels. HE believes that the bus service will be an attractive option for many visitors due to the additional stop along US 50 and the fact that no one in a visiting group would have to drive, likely missing a large portion of the exhibition. The bus option would also attract some people who might not otherwise be likely to visit for reasons such as worries about driving in heavy traffic. The bus service plan calls for 2 busses every 15 minute on Fridays, Saturdays and Sundays and 1 bus every 15 minutes on Mondays through Thursdays (from 10 am to 4 pm), with a maximum capacity of 50 passengers per bus. HE assumed full capacity on the weekends and 75 percent capacity on weekdays for total ridership of 22,600 people during the two week exhibition period. HE assumes that 25 percent of bus riders (5,650 people) would not otherwise have visited OTR and therefore would be additional visitors, compared to Alternative 1a. That assumption reflects the enhanced visitor experience provided by the convenience of the bus service, especially for drivers, older visitors and others who may be wary of driving in heavier traffic.

The potential for passenger trains to view the installation was considered. Based upon preliminary cost figures, this option was found to be infeasible. Hence, it is not considered in these visitation projections.

Boat rationing. Commercial boating in the AHRA is currently managed by Colorado State Parks.<sup>6</sup> Boat rationing would continue as currently described for all alternatives, with the exception of Alternative 1c which calls for new, temporary rations.<sup>7</sup> Rafting is expected to be a popular way to view the artwork and would attract a number of additional visitors. It is

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<sup>5</sup> EDAW, Inc., *Alternatives Development and Analysis, Draft Technical Support Document*, July, 2009.

<sup>6</sup> AHRA Rationing Plan for Commercial Boating Use - April 2009.

<sup>7</sup> New, temporary rations were not been defined in the *Draft Alternatives Development and Analysis* document. For the purposes of this analysis, HE has assumed that these new rations would allow for July average daily use levels during the August exhibition period.



assumed that the opportunity to raft would attract an additional interest in OTR. HE assumes that rafting companies would make use of all boats and guides available and that OTR visitors would make maximum use of this type of viewing opportunity. Under Alternative 1a, HE assumes that daily rafting activity during the August OTR exhibition period would increase to the level of average daily activity in July, the peak period for rafting on the Arkansas River. This would amount to about 21,500 additional rafters on the river to view OTR. These rafters are included in the estimate of OTR visitation for Alternative 1a. The details of a new, temporary rationing plan for the exhibition period were not available at the time these visitor estimates were made. It was assumed that the temporary rations would allow average daily July use levels to occur during the August exhibition period. Under Alternative 1c, the resulting increase in visitation is equal to the difference between the average number of daily rafters in August and the average number of daily rafters in July, applied to the three week exhibition period and accounting for the additional rafting activity already incorporated into Alternative 1a. About 5,400 additional rafting visitors would be expected under Alternative 1c.

AHRA site management. AHRA sites would remain open, existing uses would be allowed and standard fees would apply under all alternatives, with the exception of Alternatives 1c and 1d. Under Alternative 1c, AHRA sites would be open to OTR related recreation only and a minimal special event fee would apply. Under Alternative 1d, AHRA sites would be closed and the artists would make a lump sum payment to offset the revenue loss.

- Under Alternative 1c, the minimal special event fees would not be expected to deter visitors; in fact, these fees might be lower than the standard fees. It is unclear as to how the temporary regulation of “OTR related recreation only” at AHRA sites would be enforced. Therefore, no change in visitation would be expected as a result of the temporary AHRA restrictions and fees.
- Under Alternative 1d, OTR visitation would be reduced due to the closing of AHRA sites. HE estimated the number of AHRA visitors during the 2 week September exhibition period and assumed that 10 percent of those OTR/ AHRA visitors would be lost due to the closing of sites.

Construction Staging and Visitor Information/Aid Stations. With the exception of Alternative 4, all alternatives include one construction staging area at Texas Creek. All alternatives include visitor information/aid stations at, Parkdale, Texas Creek, Vallie Bridge, and Fremont Road or, under Alternative 1b, a location east of Canon City that would be an alternate visitor information area to Fremont Road.<sup>8</sup> The alternate location of the visitor information area under Alternative 1b is not expected to affect visitation numbers. Under Alternative 4, construction staging would occur on leased private lands in the Parkdale area. The limited staging area under this alternative may affect traffic in the vicinity of the Parkdale, but is not expected to either deter or attract visitors to OTR. Therefore, no change in visitation is expected due to the location or limited availability of staging areas under any alternative.

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<sup>8</sup> Alternative 1b originally included an alternate Parkdale site, but that site has been eliminated from consideration.



Construction duration. All alternatives include a 2 year construction period, with the exception of Alternative 1b, which limits the construction period to 1 year. The 1 year installation period is not expected to impact visitation to OTR during the exhibition period.<sup>9</sup>

Exhibition window. All alternatives include a 2 week exhibition period, with the exception of Alternative 1c, which extends the exhibition period to 3+ weeks (21 to 28 days). For the purposes of this analysis, HE has assumed a 3 week exhibition period for Alternative 1c.

The increased convenience of an additional week and weekend within the exhibition period would increase both in-state and out-of state attendance. However, for many visitors, OTR would represent a special opportunity to view a Christo and Jeanne-Claude artwork and therefore, the majority of visitors who would visit during a three week exhibition period would also be the visitors who would make an effort to attend during the two week exhibition period of Alternative 1a. This would lessen the visitor increase of an additional viewing week. Therefore, it is assumed that visitation would not increase in proportion to the extended viewing time. HE assumed that one additional viewing week would increase visitation by half the weekly visitation under Alternative 1a, an increase of about 90,000 people.

Exhibition season. Under Alternative 1b, OTR would be viewed in a June/ July time frame and under Alternative 1d, the exhibition period would occur in September. The remaining alternatives include an early August exhibition period.

- For Alternative 1b, HE has assumed that the OTR exhibition period would occur the last two weeks of July. A July exhibition period would result in increased visitation to OTR since summer vacations would allow more time for traveling to the area. Additionally, school schedules would not have as much of an impact in July as they would for an August exhibition period. School schedules vary from district to district and by early August parents of school-age children are generally moving into back-to-school time planning, putting less emphasis on vacations. Historically, July is Colorado's busiest month for tourism activity; however tourism in the last two weeks of July is only slightly higher (about 5 percent) than for the first two weeks of August (Alternative 1a exhibition period).<sup>10</sup> Therefore, the July exhibition period would result in an increase of about 18,000 visitors, or 5 percent, compared to Alternative 1a.
- The September exhibition period of Alternative 1d would decrease OTR visitation because people have completed their summer vacations by this point and most schools are back in session. At the statewide level, September tourism and visitation is about 25 percent lower than that of August and for the Royal Gorge, September visitation is about 46 percent lower than that of August.<sup>11</sup> For estimating September visitation, HE applied the combined ratio of September visitation to August visitation for the state and the Royal Gorge to the Alternative 1a visitation to determine the

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<sup>9</sup> Section V. of this report addresses visitation during the installation period.

<sup>10</sup> Longwoods International, *Colorado 2008 Travel Year*; Royal Gorge Bridge and Park, Monthly and Daily Visitation Statistics, 2009.

<sup>11</sup> The Royal Gorge is a popular tourist attraction located near the proposed OTR installation.



change in visitation due to the later exhibition period in September. This change would result in a decrease of about 122,000 visitors compared to Alternative 1a.

## Visitor Projections by Alternative

Exhibit 13 indicates the change in OTR visitation resulting from the variations of each component, by alternative. This exhibit also provides the final visitation estimates for each alternative.



## Exhibit 13.

## Visitation Impacts by Component and Visitation Estimates by Alternative

Alternative Attribute			Change from Alternative 1a, Number of Visitors						
			1a	1b	1c	1d	2	3	4
Panels		5.9 miles at 8 sites	Base Case	NC	NC	NC			
		4.6 miles at 5 sites					0		
		3.4 miles at 8 sites						-24,100	
		1.3 miles at 4 sites							-198,900
Transit		No Transit	Base Case		NC	NC	NC	NC	NC
		With Transit		5,700					
Visitor Management	Rationing	Existing boat rations	Base Case	NC		NC	NC	NC	NC
		New, temporary rations*			5,400				
	AHRA Sites	AHRA sites open, existing uses permitted; standard SP entrance fees apply	Base Case	NC			NC	NC	NC
		AHRA sites open, OTR-related rec. uses only; event-only fees applied			0				
		Close AHRA Rec Sites; lump sum payment to offset revenue loss				-3,000			
	Staging/ Info	Parkdale	Base Case	NC	NC	NC	NC	NC	NC
		Texas Creek	Base Case	NC	NC	NC	NC	NC	
		Fremont Road	Base Case	0	NC	NC	NC	NC	NC
		East of Canon City		0					
	Temporal	Construction Duration	Two years	Base Case		NC	NC	NC	NC
One year				0					0
Viewing Window		Two weeks	Base Case	NC		NC	NC	NC	NC
		Three weeks+ (21-28 days)			90,000				
Viewing Season		June/July (assume July)					17,200		
		August	Base Case	NC	NC		NC	NC	NC
		September				-117,000			
Projected Visitation			344,000	350,000	439,000	224,000	361,000	320,000	145,000

Notes: Visitation estimates by alternative rounded to nearest thousand. Projected visitation from the J.F. Sato and Associates *Design and Planning Report* was 380,000.

Source: Harvey Economics, 2010.



## V. Additional Projections

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### Day of the Week Visitor Distribution

More visitors are likely to attend OTR on weekend days as compared to weekdays. According to the Chaffee County Visitor's Bureau, visitation occurs as follows: most people visit the area and local attractions on Saturdays and Sundays; Thursdays, Fridays and Mondays are becoming more popular days to visit; and Tuesdays and Wednesdays tend to see the lowest visitation.<sup>12</sup> According to Colorado Department of Transportation (CDOT) data, average summertime traffic volume for U.S. 50 reflects a similar pattern, indicating that traffic is generally about 30 percent higher on the weekends compared to mid-week days between mid-July and mid-August. It is reasonable to assume that OTR visitation would also follow a similar pattern, with more visitation occurring on the weekends. A large portion of OTR visitors would be local Colorado residents that would likely visit the artwork as a day trip; these visitors would be more likely to visit special events, such as OTR, on weekend days or as part of a long weekend trip. A smaller portion of visitors would be on longer summer vacations that include a visit to OTR as part of a larger trip; these visitors would be more likely to visit the artwork during the week. Therefore, HE assumes that daily visitation on Saturdays and Sundays (peak days) will be double the daily visitation of Tuesdays through Thursdays and visitation on Fridays and Mondays will amount to about 75 percent of weekend visitation.

### Installation and Demobilization Periods

The 2007 Design and Planning Report defines the installation and demobilization periods as the periods immediately before and after the exhibition period. Sato developed an estimate of the number of people that would be likely to visit OTR during the installation and removal periods under Alternative 1a. However, the 90,000 person estimate of visitation to the area before and after the exhibition period stated in the Design and Planning Report is incorrect.<sup>13</sup> Sato reviewed their visitor estimates in December 2009 and found an error in the calculations of installation and demobilization visitors. Sato's corrected visitor numbers are 36,000 people during the installation period and 36,000 visitors during the demobilization period. . After further investigation of various aspects of previous Christo and Jeanne-Claude events, including interviews with project managers and engineers, HE adopted Sato's revised estimates of installation and demobilization visitation to OTR as reasonable for Alternative 1a.<sup>14</sup> In the months leading up to the Exhibition Period, a small number of visitors may be attracted to the area due to increased publicity. Environmentalists and engineers may also have an interest in the technical aspects of the project. In the days leading up to the exhibition period, as the cabling begins, it is expected that visitation will increase. In the final days before the Exhibition Period, as the fabric panels are put in place, or "blossomed," visitation is expect to increase significantly. A graphic of project visitation patterns for the Installation Period is shown in Exhibit 14.

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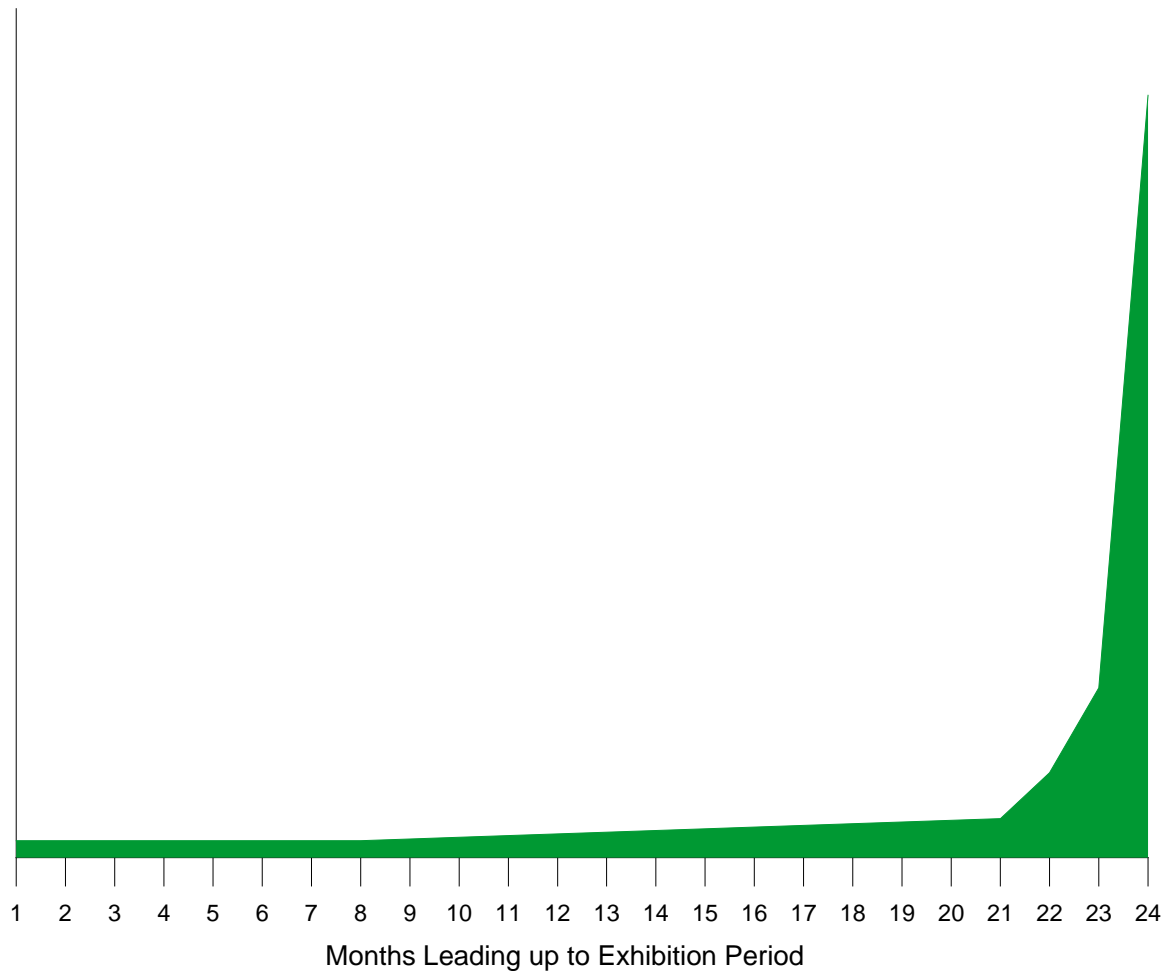
<sup>12</sup> April Prout, Marketing Director, Chaffee County Visitor's Bureau, September 2009.

<sup>13</sup> Larry Young, J.F. Sato and Associates, December 16, 2009.

<sup>14</sup> HE participated in a conference call with OTR Corporation on December 11, 2009. Information on past Christo and Jeanne- Claude events was mainly provided by Jonita Davenport and Vince Davenport.



Exhibit 14.  
Projected Visitation Patterns during the Installation Period

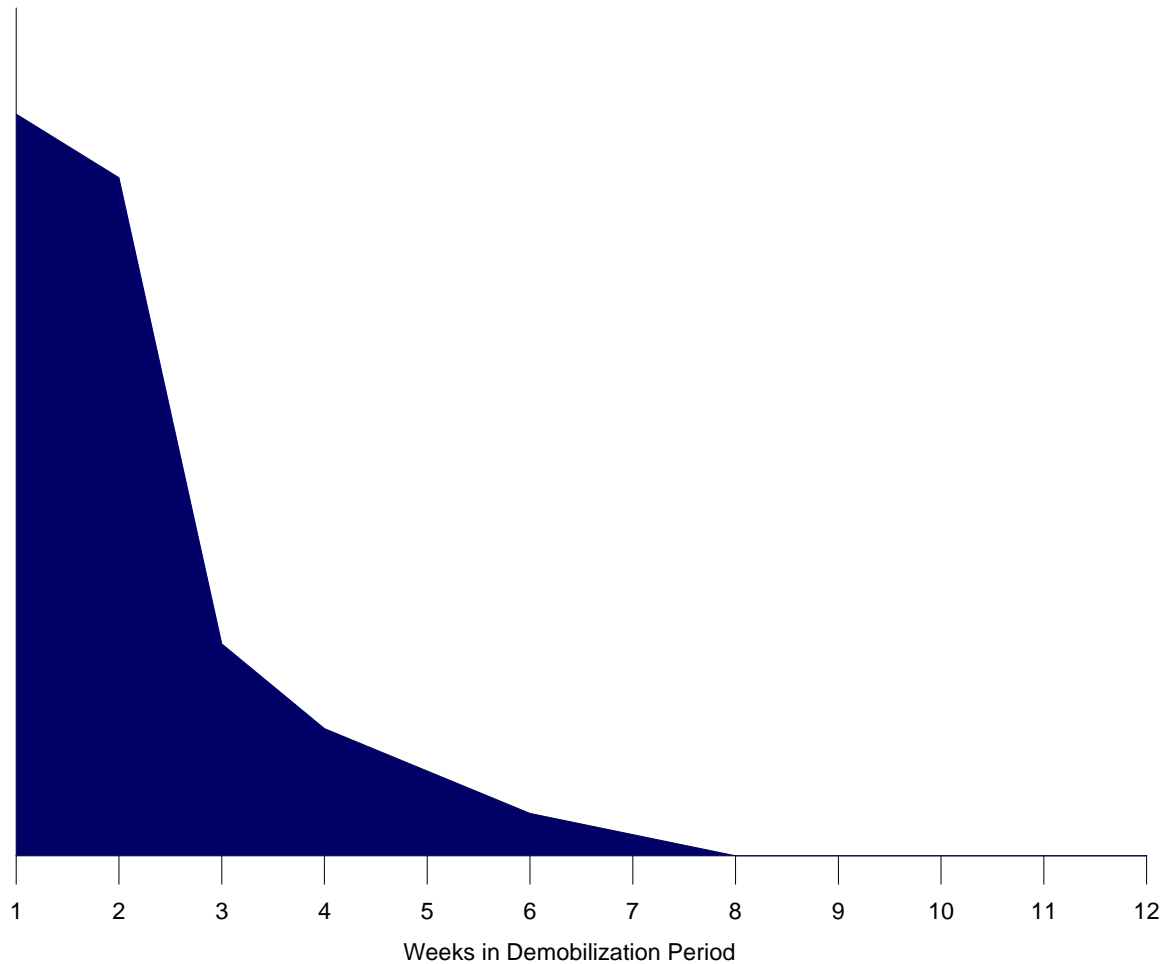


Source: J.F. Sato and Associates, *Over The River Planning and Design Report*, April 2007; Harvey Economics, 2009.

The demobilization period will begin immediately after the exhibition period. By the end of the exhibition period, the Project will have full notoriety and those who missed the exhibition will have this final opportunity to experience OTR. The demobilization will begin with removal of the fabric panels which will take about two weeks. Removal of the cables will take about six weeks, after which visitation is expected to fall to very low levels. A graphic of expected visitation trends during the Demobilization Period are shown in Exhibit 15.



Exhibit 15.  
Projected Visitation Patterns During the Demobilization Period



Source: J.F. Sato and Associates, *Over The River Planning and Design Report*, April 2007; Harvey Economics, 2009.

HE applied the ratio of exhibition period visitation to the 36,000 person estimate of installation and removal visitation for Alternative 1a to the exhibition period visitation estimates for other alternatives. The basis for the ratio approach is the assumption that exhibition period visitation is an indicator of the overall level of interest in the project; therefore, alternatives with greater exhibition period visitation would also have higher installation and removal period visitation. The results of the ratio calculations are shown in Exhibit 16.



Exhibit 16.  
OTR Visitation Projections during Installation and Demobilization Periods

<u>Alternative</u>	<u>Visitation During Both Installation and Demobilization Periods</u>
1a	36,000
1b	37,000
1c	46,000
1d	23,000
2	38,000
3	33,000
4	15,000

Source: Harvey Economics, 2010.

Alternative 1b and Alternative 4 include a 1 year construction period, compared to the 2 year construction period for all other alternatives. Under Alternatives 1b and 4, the same types of construction activities would occur in preparation for the exhibition period, only within a shorter time frame and for a smaller length of panels.<sup>15</sup> Additionally, as described above, the majority of installation period visitation for any alternative would occur in the weeks immediately prior to the exhibition period, when the fabric panels would be put into place and other final touches would be made; earlier installation activities would not generate as much interest. For these reasons, a one year construction period would consolidate, but not increase or decrease, installation period visitation.

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<sup>15</sup> Total panel length would be reduced under Alternative 1b and Alternative 4. The effect of that component has already been accounted for in the estimates of exhibition period visitation and therefore in the estimates of installation period visitation by way of the ratio approach.



